



Mineral Industry Surveys

For information, contact:

Kim B. Shedd, Cobalt Commodity Specialist U.S. Geological Survey 989 National Center Reston, VA 20192

Telephone: (703) 648-4974, Fax: (703) 648-7757

E-mail: kshedd@usgs.gov

Jo-Ann Sterling (Data) Telephone: (703) 648-7953 Fax: (703) 648-7975 E-mail: jsterlin@usgs.gov

Internet: http://minerals.usgs.gov/minerals

COBALT IN SEPTEMBER 2004

U.S. cobalt consumption during the quarter ending September 30, 2004, was nearly equal in amount to that consumed during the quarter ending June 30, 2004, according to the U.S. Geological Survey. U.S. cobalt consumption during the first three quarters of 2004 was nearly equal in amount to that consumed during the first three quarters of 2003.

The amount of cobalt contained in U.S. imports of cobalt metals and chemicals was 6% higher during January through August 2004 than that of imports during the same period in 2003. The amount of cobalt contained in U.S. exports of unwrought cobalt and chemicals was 11% higher during January through August 2004 than that of exports during the same period in 2003. Trade data for September 2004 will be available in a subsequent issue.

Price

Prices for electrolytic cobalt, in dollars per pound from

Platts Metals Week, are listed below.

<u>Date</u>	Price range
October 14	21.25-22.95
October 21	21.00-22.00
October 28	19.25-20.00
November 4	17.50-18.50
November 11	16.00-16.75
November 18	15.75-16.75
November 24	15.25-15.75
December 2	17.00-17.50

<u>Month</u>	Average price
October	21.40
November	16.53

 $\label{table 1} \textbf{U.S. REPORTED CONSUMPTION OF COBALT MATERIALS}^1$

(Metric tons, contained cobalt)

Period		Oxide and other chemical					
	Metal ²	compounds ³	Scrap	Total			
2003:		•					
September	232 ^r	166 ^r	167	565 ^r			
October	226 ^r	164 ^r	167	557 ^r			
November	240 ^r	154 ^r	167	561 ^r			
December	216 ^r	155 ^r	167	538 ^r			
January-September	2,070 ^r	1,460 ^r	1,510	5,040 ^r			
January-December ⁴	2,750 ^r	1,930 ^r	2,010	6,700 ^r			
Year ⁵	3,570	1,940	2,140	7,640			
2004:	<u> </u>						
January	246 ^r	219	172 ^r	636 ^r			
February	254 ^r	178	158 ^r	590 ^r			
March	212 ^r	165	175 ^r	552 ^r			
April	222 ^r	169	169 ^r	561 ^r			
May	220 ^r	156	172 ^r	547 ^r			
June	223 ^r	179	171 ^r	573 ^r			
July	245 ^r	155	162 ^r	562 ^r			
August	233 ^r	161	162 ^r	556 ^r			
September	224	139	162	526			
January-September	2,080	1,520	1,500	5,100			

rRevised.

 $\mbox{TABLE 2} \label{eq:table 2} \mbox{U.S. REPORTED CONSUMPTION OF COBALT, BY END USE}^1$

(Metric tons, contained cobalt)

		2003	2004			
	January- January-				January-	
End use	September ^r	December ^{r, 2}	Year ³	September	September ⁴	
Steel	326	431	565	35	330	
Superalloys	2,270	3,030	3,400	238	2,240	
Magnetic alloys	248	330	339	28	255	
Other alloys ⁵	W	W	632	W	W	
Cemented carbides ⁶	496	662	662	60	525	
Chemical and ceramic uses ⁷	1,490	1,970	1,980	142	1,550	
Miscellaneous and unspecified	205	271	63	23	203	
Total	5,040	6,700	7,640	526	5,100	

^rRevised. W Withheld to avoid disclosing company proprietary data; included with "Miscellaneous and unspecified."

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes metal powder.

³Data may include other cobalt materials.

⁴Data based on monthly reports.

⁵Includes annual reports.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Data based on monthly reports.

³Includes annual reports.

⁴May include revisions to prior months.

⁵Includes nonferrous alloys, welding materials, and wear-resistant alloys.

⁶Includes diamond tool matrices, cemented and sintered carbides, and cast carbide dies or parts.

⁷Includes catalysts, driers in paints or related usages, feed or nutrive additives, glass decolorizer, ground coat frit, pigments, and other uses.

 $\label{eq:table 3} \textbf{U.S. REPORTED STOCKS OF COBALT MATERIALS}^1$

(Metric tons, contained cobalt)

		Indust	ry ²		
		U.S.			
		other chemical			Government,
Period	Metal ³	compounds ⁴	Scrap	Total	metal ⁵
2003:					
September	356 ^r	198 ^r	104 ^r	657 ^r	4,930
October	351 ^r	195 ^r	104 ^r	650 ^r	4,750
November	324 ^r	195 ^r	104 ^r	623 ^r	4,640
December ⁶	342 ^r	194 ^r	104 ^r	641 ^r	4,290
Year ⁷	380	214	105	699	4,290
2004:					
January	358	204	104	666	3,900
February	325	193	104	622	3,410
March	363	218	104	685	3,120
April	338	207	104	650	2,980
May	338	202	104	644	2,860
June	334	202	104	640	2,800
July	343	189	104	636	2,740
August	329 ^r	201	104	634	2,730
September	332	196	104	633	2,700

¹Data are rounded to no more than three significant digits; may not add to totals shown.

 $^{^2\}mbox{Stocks}$ reported by cobalt processors and consumers.

³Includes metal powder.

⁴Data may include other cobalt materials.

⁵Data from Defense National Stockpile Center. Includes material committed for sale pending shipment.

⁶Data based on monthly reports.

⁷Includes annual reports.

 $\label{eq:table 4} \textbf{U.S. IMPORTS FOR CONSUMPTION OF COBALT, BY COUNTRY}^1$

						2	Total cobalt	Cobalt content,
Period and country	Met	als ²	Oxides and		Salts and co		content for	year to
of origin	Quantity	Value ⁴	Quantity	Value ⁴	Quantity	Value ⁴	the month ⁵	date ^{5, 6}
2003:	7	7						
August	390,000 ⁷	\$8,440,000	59,100	\$963,000	70,700	\$480,000	452,000	5,180,000
September	712,000	14,000,000	92,800	1,560,000	166,000	1,160,000	831,000	6,010,000
October	526,000	11,100,000	100,000	1,660,000	152,000	1,060,000	644,000	6,660,000
November	553,000	12,300,000	104,000	1,720,000	77,900	488,000	651,000	7,310,000
December	632,000	16,300,000	131,000	2,540,000	121,000	996,000	770,000	8,080,000
January-August	4,280,000	81,100,000	938,000	15,500,000	823,000	4,640,000	5,180,000	XX
January-December	6,700,000	135,000,000	1,370,000	23,000,000	1,350,000	8,350,000	8,080,000	XX
2004:								
January	525,000	17,100,000	131,000	2,710,000	172,000	1,620,000	677,000	677,000
February	862,000	25,400,000	139,000	3,940,000	178,000	2,380,000	1,020,000	1,700,000
March	680,000	29,900,000	126,000	4,290,000	119,000	1,030,000	804,000	2,500,000
April	591,000	28,000,000	81,100	2,630,000	130,000	1,910,000	690,000	3,190,000
May	404,000	20,300,000	40,100	1,760,000	38,900	613,000	446,000	3,640,000
June	609,000	30,600,000	148,000	6,170,000	158,000	2,240,000	763,000	4,400,000
July	458,000	18,700,000	117,000	4,790,000	182,000	2,210,000	599,000	5,000,000
August:	·		·		· · · · · · · · · · · · · · · · · · ·			
Australia	20,000	1,150,000					20,000	247,000
Belgium	16,100	1,010,000	34,500	1,530,000			41,000	701,000
Brazil								6,360
Canada	64,500	3,120,000					64,500	825,000
China			1,700	61,100	39,000	650,000	15,600	464,000
Colombia					651	2,500	176	694
Congo (Kinshasa)	544	33,400				2,300	544	544
Finland	18,600	1,140,000	18,900	690,000	59,800	860,000	49,800	584,000
France	376	38,600	1,670	112,000	37,000		1,580	59,800
Germany	2,160	128,000	1,070				2,160	34,600
India	2,100	120,000					2,100	26,800
Italy								387
	29,400	1,850,000	20	2,260	4,590	86,100	30,600	116,000
Japan Korea, Republic of	29,400 840	60,000		2,200	4,390	60,100	840	7,490
Mexico	640	00,000					040	629
Netherlands		4.260.000					91 200	14
Norway	81,200	4,260,000					81,200	870,000 5.790
Philippines	100.000						100.000	5,780
Russia	108,000	5,750,000					108,000	966,000
South Africa	18,500	996,000					18,500	106,000
Spain								1,120
Sweden								4,700
Switzerland			2	3,720			1	4,700
Taiwan			20,000	724,000			14,400	27,700
United Kingdom	864	82,200	25,000	843,000	19,800	259,000	24,000	121,000
Zambia	10,100	510,000					10,100	297,000
Total	371,000	20,100,000	102,000	3,960,000	124,000	1,860,000	483,000	5,480,000
January-August	4,500,000	190,000,000	884,000	30,200,000	1,100,000	13,900,000	5,480,000	XX

XX Not applicable. -- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Unwrought cobalt, excluding alloys; includes cobalt cathode and cobalt metal powder; may include intermediate products of cobalt metallurgy.

³Includes cobalt acetates, cobalt carbonates, cobalt chlorides, and cobalt sulfates.

⁴Customs value.

⁵Estimated from gross weights.

⁶May include revisions to prior months.

⁷Data no longer in question.

 ${\it TABLE~5}$ U.S. IMPORTS FOR CONSUMPTION OF ADDITIONAL COBALT MATERIALS, BY COUNTRY 1

		ought			Wrought of	
Period and country	cobalt	alloys	Cobalt wast	Cobalt waste and scrap		articles
of origin	Quantity	Value ²	Quantity	Value ²	Quantity	Value ²
2003:						
August	440	\$23,500	86,200	\$618,000	14,400	\$787,000
September	475	13,000	10,700	126,000	9,410	646,000
October	8,170	84,200	47,900	324,000	11,300	810,000
November	2,870	83,200	68,700	479,000	11,300	646,000
December	2,140	66,400	53,400	432,000	13,100	1,010,000
January-August	15,400	470,000	301,000	2,610,000	122,000	7,590,000
January-December	29,000	717,000	482,000	3,970,000	167,000	10,700,000
2004:						
January	2,250	100,000	48,900	614,000	11,400	807,000
February	4,450	118,000	152,000	1,500,000	20,000	856,000
March	6,630	363,000	102,000	1,030,000	20,500	1,290,000
April	13,300	548,000	123,000	1,190,000	10,400	843,000
May	9,330	299,000	78,000	514,000	15,000	1,020,000
June	3,330	163,000	111,000	1,510,000	15,700	1,170,000
July	14,100	687,000	57,400	955,000	20,400	1,430,000
August:						
Austria	49	8,140				
Belgium					1,400	118,000
Canada			10,200	127,000	1,020	243,000
Czech Republic					2	3,060
France			932	12,400	1,160	70,800
Germany			62,300	630,000	211	40,300
Ireland			4,610	65,000		
Japan	900	54,700			714	40,800
Saudi Arabia			2,290	28,000		
Tunisia			1,560	27,200		
United Kingdom			35,700	486,000	4,780	342,000
Total	949	62,800	118,000	1,380,000	9,380	858,000
January-August	54,300	2,340,000	790,000	8,690,000	123,000	8,270,000

⁻⁻ Zero

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Customs value.

 $\label{eq:table 6} \textbf{U.S.} \ \textbf{EXPORTS} \ \textbf{OF} \ \textbf{COBALT} \ \textbf{MATERIALS}^1$

	Unwrought col		Oxides and	hydroxides	Salts and c	ompounds ³	Total cobalt content for	Cobalt content, year to
Period	Quantity	Value ⁴	Quantity	Value ⁴	Quantity	Value ⁴	the month ⁵	date ^{5, 6}
2003:								
August	187,000	\$4,270,000	17,400	\$338,000	56,600	\$324,000	213,000	1,720,000
September	227,000	3,980,000	15,200	191,000	10,000	57,100	240,000	1,960,000
October	184,000	2,890,000	9,310	166,000	118,000	603,000	219,000	2,180,000
November	137,000	3,650,000	54,500	1,010,000	70,600	447,000	193,000	2,370,000
December	306,000	6,820,000	29,500	778,000	46,200	259,000	338,000	2,710,000
January-August	1,440,000	31,300,000	267,000	3,970,000	371,000	2,000,000	1,720,000	XX
January-December	2,290,000	48,600,000	375,000	6,110,000	615,000	3,370,000	2,710,000	XX
2004:								
January	183,000	4,730,000	36,600	1,430,000	75,500	458,000	228,000	228,000
February	214,000	9,000,000	80,500	3,750,000	65,800	761,000	288,000	516,000
March	232,000	9,740,000	11,400	359,000	78,700	708,000	260,000	776,000
April	154,000	6,530,000	14,600	531,000	82,700	867,000	185,000	960,000
May	205,000	8,000,000	62,000	3,130,000	14,600	166,000	254,000	1,210,000
June	134,000	5,520,000	11,300	440,000	17,700	215,000	147,000	1,360,000
July	203,000	8,580,000	15,400	527,000	41,700	480,000	224,000	1,580,000
August	289,000	7,150,000	41,100	2,060,000	66,200	683,000	334,000	1,920,000
January-August	1,620,000	59,300,000	273,000	12,200,000	443,000	4,340,000	1,920,000	XX

XX Not applicable.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²May include other intermediate products of cobalt metallurgy and unwrought cobalt alloys.

³Cobalt acetates and cobalt chlorides.

⁴Free alongside ship (f.a.s.) value.

⁵Estimated from gross weights.

⁶Year to date may include revisions to prior months.

TABLE 7 $\mbox{U.s. EXPORTS OF WROUGHT COBALT, COBALT ORE, } \\ \mbox{AND CONCENTRATES}^{1}$

	Wrought c cobalt a		Cobalt ore and concentrates		
Period	Quantity	Value ²	Quantity	Value ²	
2003:					
August	65,500	\$2,720,000	$73,700^{-3}$	\$473,000 ³	
September	89,600	3,090,000	$32,100^{-3}$	149,000 ³	
October	116,000	3,150,000	$74,400^{-3}$	979,000 ³	
November	97,000	2,440,000	$29,000^{-3}$	559,000 ³	
December	83,300	2,470,000	$76,000^{-3}$	1,990,000 ³	
January-August	619,000	20,100,000	405,000	1,890,000	
January-December	1,010,000	31,300,000	617,000	5,560,000	
2004:					
January	50,900	2,400,000	126,000	4,320,000	
February	94,600	3,680,000	295,000	3,290,000	
March	77,000	3,840,000	123,000	6,140,000	
April	78,100	3,300,000	110,000	1,600,000	
May	129,000	4,920,000	103,000	2,250,000	
June	113,000	3,610,000	22,700	1,190,000	
July	89,600	3,520,000	14,100	709,000	
August	135,000	4,480,000	47,000	568,000	
January-August	767,000	29,700,000	842,000	20,100,000	

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Free alongside ship (f.a.s.) value.

³Data no longer in question.